REMARKS

Reconsideration of the application is respectfully requested.

Claims 1-4 are in the application. Claim 1 has been amended to incorporate original claim 2 and, accordingly claim 2 has been canceled. Support for this amendment may be found on page 8, lines 6-16, as well as the examples in the present application.

In the Office Action, the Examiner rejected claim 1 under 35 U.S.C. §102(e) as being allegedly anticipated by KOENIG (U.S. App. No. 2003/0080622), as well as being allegedly anticipated by GILBRETH (U.S. Pat. No. 6,487,096). Claims 2-4 were rejected under 35 U.S.C. § 103(a) as being allegedly obvious over KOENIG.

As indicated above, claim 1 has been amended to incorporate original claim 2. With this amendment, it is respectfully submitted that the anticipation rejections based on KEONIG and GILBRETH have been overcome.

Original claim 2 was rejected based on KOENIG. Applicants shall respond to this rejection with reference to amended claim 1. In the Official Action, the Examiner asserted that "KOENIG is silent as to the ratio of the boost." (Page 3) However, it is respectfully noted that the KOENIG publication does indeed disclose a specific ratio, which is outside the scope of the present invention. KOENIG discloses an energy storage device which stores a DC voltage of between 105V and 210V and a boost DC-to-DC converter which performs upward voltage translation to generate about 400V to operate an inverter. To wit, please refer to the following description at page 2 of the KOENIG's publication:

> **[0018]** In the example of FIG. 1, because the operating voltage needed at the inverter input at node/bus 112 may differ from that obtained at node/bus 122 from energy storage device 116, a switched-mode or other converter between these nodes/buses performs a DC-to-DC voltage conversion, if needed. In one example, in which inverter 108 delivers a 60 Hz, 139V rms (line-to-neutral)/240V rms (line-to-line) magnitude three-phase AC signal at node/bus 114 to load 102, an inverter DC input voltage of about 400V is required at node 112. In this example, energy storage device 112 is an electrochemical capacitor storing a DC voltage at node/bus 122 that is approximately between 105V and 210V. Therefore, in this example, a step-up or boost DC-to-DC converter 118 performs the upward voltage translation to generate the about 400V needed at node/bus 112 to operate inverter 108. (emphasis added).

With the charging voltage of the energy storage device being between 105V and 210V and the operating voltage of the inverter being 400V, the ratio of charging voltage of the electric double layer capacitor to a minimum operating voltage of the DC/AC inverter is in a range of 0.26 (obtained from 105/400) to 0.53 (obtained from 210/400). KOENIG therefore is not silent as to the ratio of the boost; rather it specifically discloses a ratio of 0.26-0.53.

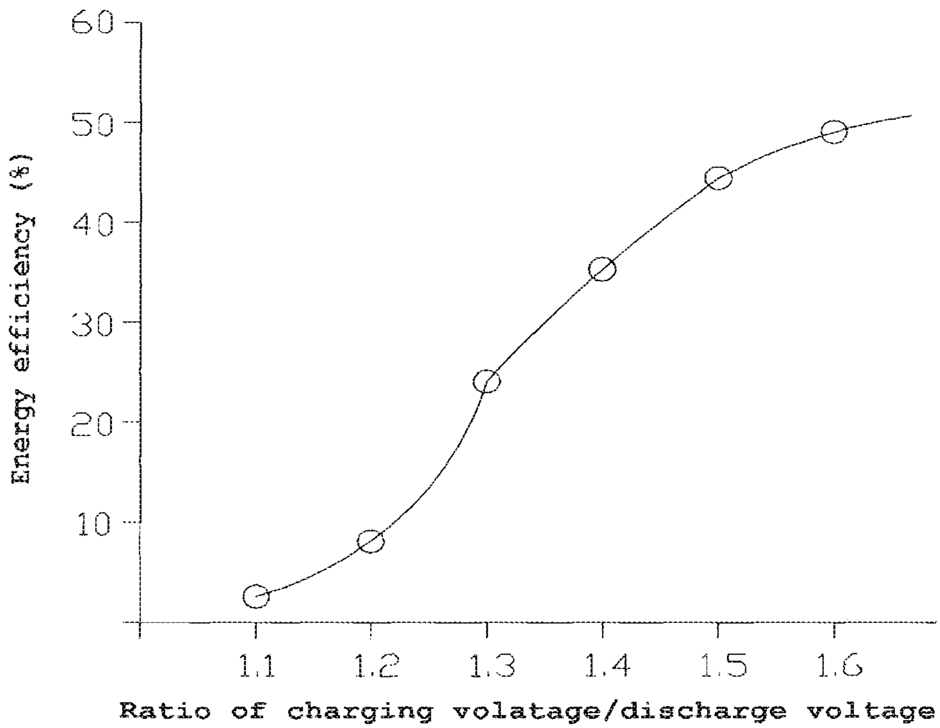
With reference to claim 1, the present invention is directed to an uninterruptible power supply which includes a DC/AC inverter and an electric double layer capacitor where "a ratio of charging voltage of the electric double layer capacitor to a minimum operating voltage of the DC/AC inverter is adjusted to 1.3 times or higher." Advantageously, with the present invention, when the ratio of the charging voltage of the electric double layer capacitor to the minimum operating voltage of the DC/AC inverter is adjusted to about 1.3, the discharge efficiency and the power backup time are respectively 22.8% and 1.4 seconds, which is higher than that of the DC power backup system. Ratios higher than 1.3 produce even greater results. A more detailed description of this matter is set forth on page 8, lines 6-16 of the specification of the present

invention. The results of the Applicants' tests are summarized in Table 3 at page 13 of the specification of the present invention:

Table 3

Charging voltage/discharge voltage	Characteristics of the electric double layer capacitor					Power backup time (sec)	Energy efficiency (%)
	Circuit arrangement (series x parallel)	Charging voltage	Withstand voltage	Capaci-tance	Energy density		
1.1	80 x 8	183	200	5.00	23.26	0.07	**0.8**
1.2	88 x 5	200	220	2.84	15.78	0.54	**9.4**
1.3	96 x 5	217	240	2.60	17.03	1.4	**22.8**
1.4	103 x 5	233.8	258	2.42	18.42	2.27	**35.0**
1.5	110 x 5	250.5	270	2.27	19.80	3.13	**43.9**
1.6	118 x 4	267.3	295	1.69	16.81	2.98	**49.3**

As can be seen in Table 3, the variation of the energy efficiency dependent upon the ratio of the charging voltage to the discharging voltage (that corresponds to the minimum operating voltage of the inverter) is summarized in the following Reference Figure:



As shown in the above Reference Figure, the graph forms an inflection point at the ratio of about 1.3. It can be seen that the efficiency of the UPS system undergoes critical change at that point, with a higher energy efficiency being achieved at and above a ratio of 1.3. This fact is neither suggested nor anticipated from the KOENIG's publication. KOENIG's ratio in the range of 0.26-0.53 is significantly lower than that claimed herein. It is respectfully submitted that claims 1, 3 and 4 are patentable over KOENIG.

Favorable action is earnestly solicited. If there are any questions or if additional information is required, the Examiner is respectfully requested to contact Applicants' attorney at the number listed below.

Respectfully submitted,

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